

CLAIMS

**WHAT IS CLAIMED IS:**

1. A method for preparing a cheese product comprising:

(1) mixing one or more concentrated powders derived from milk with sodium chloride, milk fat, water, and, optionally, an edible acid and a preservative for a period of time sufficient to produce a mixed product, wherein the concentrated powders are present in an amount ranging from about 25 to about 60 percent, wherein the sodium chloride is present in an amount ranging from about 0.5 to about 4.0 percent, wherein the milk fat is present in an amount ranging from about 9 to about 38 percent, wherein the edible acid is present in an amount ranging from 0 to about 2.0 percent, wherein the preservative is present in an amount ranging from 0 to about 0.2 percent, wherein the water is present at a level sufficient to form the cheese product, wherein percentages are based on the total weight of the cheese product, and wherein the milk fat during mixing is at a temperature of about 80 to about 140°F; and

(2) cooling the mixed product for a time and at a temperature which is sufficient to allow the mixed product to form a solid matrix, wherein the solid matrix is the cheese product;

wherein the cheese product has the texture and consistency of fresh cheese.

2. The method of claim 1, wherein the period of time for mixing is about 10 to about 30 minutes.

3. The method of claim 2, wherein the mixed product is cooled to a temperature ranging from about 35 to about 55°F.

4. A method for preparing a process cheese base comprising:

(1) mixing one or more concentrated powders derived from milk with sodium chloride, milk fat, water, and, optionally, an edible acid and a preservative for a period of time sufficient to produce a mixed product, wherein the concentrated powders are present in an amount ranging from about 25 to about 60 percent, wherein the sodium chloride is present in an amount ranging from about 0.5 to about 4.0 percent, wherein the milk fat is present in an amount ranging from about 9 to about 38 percent, wherein the edible acid is present in an amount ranging from 0 to about 2.0 percent, wherein the preservative is present in an amount ranging from 0 to about 0.2 percent, wherein the water is present at a level sufficient to form the process cheese base, wherein percentages are based on the total weight of the process cheese base, and wherein the milk fat during mixing is at a temperature of about 80 to about 140°F; and

(2) cooling the mixed product for a time and at a temperature which is sufficient to allow the mixed product to form a solid matrix that can be ground by a cheese grinding system, wherein the solid matrix is the process cheese base;

wherein the process cheese base may be employed as a substitute for some or all of the natural cheese in a process for producing process cheese.

5. The method of claim 4, wherein the period of time for mixing is about 10 to about 30 minutes.

6. The method of claim 5, wherein the mixed product is cooled to a temperature ranging from about 35 to about 55°F.

7. The method of claim 6, wherein the concentrated milk powders range from about 30 to about 55 percent of the total weight of the process cheese base.

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8. The method of claim 7, wherein the sodium chloride ranges from about 1.5 to about 2.0 percent.
  9. The method of claim 8, wherein the milk fat ranges from about 15 to about 36 percent.
  10. The method of claim 9, wherein the water ranges from about 32 to about 34 percent.
  11. The method of claim 10, wherein the concentrated milk powders are non-fat dry milk, whey powders, casein, or milk protein powders.
  12. The method of claim 11, wherein the milk fat is cream, dried sweet cream, anhydrous milk fat, concentrated milk fat, or mixtures thereof.
  13. The method of claim 12, wherein the edible acid ranges from about 0.5 to about 2.0 percent.
  14. The method of claim 13, wherein the edible acid is lactic acid.
  15. The method of claim 14, wherein the preservative ranges from about 0.15 to about 0.18 percent .
  16. The method of claim 15, wherein the preservative is sorbic acid.
  17. The method of claim 16, wherein the process cheese base has a fat content ranging from about 10 to about 40 percent.

18. A cheese product prepared according to a method comprising:

(1) mixing one or more concentrated powders derived from milk with sodium chloride, milk fat, water, and, optionally, an edible acid and a preservative for a period of time sufficient to produce a mixed product, wherein the concentrated powders are present in an amount ranging from about 25 to about 60 percent, wherein the sodium chloride is present in an amount ranging from about 0.5 to about 4.0 percent, wherein the milk fat is present in an amount ranging from about 9 to about 38 percent, wherein the edible acid is present in an amount ranging from 0 to about 2.0 percent, wherein the preservative is present in an amount ranging from 0 to about 0.2 percent, wherein the water is present at a level sufficient to form the cheese product, wherein percentages are based on the total weight of the cheese product, and wherein the milk fat during mixing is at a temperature of about 80 to about 140°F; and

(2) cooling the mixed product for a time and at a temperature which is sufficient to allow the mixed product to form a solid matrix, wherein the solid matrix is the cheese product;

wherein the cheese product has the texture and consistency of fresh cheese.

19. A process cheese base prepared according to a method comprising:

(1) mixing one or more concentrated powders derived from milk with sodium chloride, milk fat, water, and, optionally, an edible acid and a preservative for a period of time sufficient to produce a mixed product, wherein the concentrated powders are present in an amount ranging from about 25 to about 60 percent, wherein the sodium chloride is present in an amount ranging from about 0.5 to about 4.0 percent, wherein the milk fat is present in an amount ranging from about 9 to about 38 percent, wherein the edible acid is present in an amount ranging from 0 to about 2.0 percent ,

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wherein the preservative is present in an amount ranging from 0 to about 0.2 percent, wherein the water is present at a level sufficient to form the process cheese base, wherein percentages are based on the total weight of the process cheese base, and wherein the milk fat during mixing is at a temperature of about 80 to about 140°F; and

(2) cooling the mixed product for a time and at a temperature which is sufficient to allow the mixed product to form a solid matrix that can be ground by a cheese grinding system, wherein the solid matrix is the process cheese base;

wherein the process cheese base may be employed as a substitute for some or all of the natural cheese in a process for producing process cheese.

20. The method of claim 19, wherein the period of time for mixing is about 10 to about 30 minutes.

21. The method of claim 20, wherein the mixed product is cooled to a temperature ranging from about 35 to about 55°F.

22. The method of claim 21, wherein the concentrated milk powders range from about 30 to about 55 percent.

23. The method of claim 22, wherein the sodium chloride ranges from about 1.5 to about 2.0 percent.

24. The method of claim 23, wherein the milk fat ranges from about 15 to about 36 percent.

25. The method of claim 24, wherein the water ranges from about 32 to about 34 percent.

26. The method of claim 25, wherein the concentrated milk powders are non-fat dry milk, whey powders, casein, or milk protein powders.
27. The method of claim 26, wherein the milk fat is cream, dried sweet cream, anhydrous milk fat, concentrated milk fat, or mixtures thereof.
28. The method of claim 27, wherein the edible acid ranges from about 0.5 to about 2.0 percent.
29. The method of claim 28, wherein the edible acid is lactic acid.
30. The method of claim 29, wherein the preservative ranges from about 0.15 to about 0.18 percent.
31. The method of claim 30, wherein the preservative is sorbic acid.
32. The method of claim 31, wherein the process cheese base has a fat content ranging from about 10 to about 40 percent.
33. A process cheese prepared according to a method comprising:  
(1) preparing a process cheese base by a method comprising:  
    (A) mixing one or more concentrated powders derived from milk with sodium chloride, milk fat, water, and, optionally, an edible acid and a preservative for a period of time sufficient to produce a mixed product, wherein the concentrated powders are present in an amount ranging from about 25 to about 60 percent, wherein the sodium chloride is present in an amount ranging from about 0.5 to about 4.0 percent, wherein the milk fat is present in an amount ranging from about 9 to about 38 percent, wherein the

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edible acid is present in an amount ranging from 0 to about 2.0 percent, wherein the preservative is present in an amount ranging from 0 to about 0.2 percent, wherein the water is present at a level sufficient to form the process cheese base, wherein percentages are based on the total weight of the process cheese base, and wherein the milk fat during mixing is at a temperature of about 80 to about 140°F; and

(B) cooling the mixed product for a time and at a temperature which is sufficient to allow the mixed product to form a solid matrix that can be ground by a cheese grinding system, wherein the solid matrix is the process cheese base; and

(2) employing the process cheese base as an additive to, or substitute for some or all of, the natural cheese during the production of process cheese.

34. The process cheese of claim 33, wherein the process cheese contains about 5 to about 20 percent of the process cheese base.

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